

Background

The Wilcox Oil Company Superfund Site (Site) is an abandoned and demolished oil refinery and associated tank farm located north of Bristow, Creek County, Oklahoma. The geographic coordinates of the Site are approximately 35°50'31" North latitude and 96°23'02" West longitude. Multiple sampling events have been conducted by DEQ and EPA including Preliminary Assessments (PA), Site Inspections (SI), and Expanded Site Inspections (ESI). On May 24, 2013, EPA proposed the Wilcox Oil Company site to the National Priorities List (NPL a.k.a Superfund Sites) list. On December 12, 2013, The Wilcox Oil Company site officially became a Superfund Site (EPA ID# OK0001010917), when it was added to the NPL.

A detailed title search in the Creek County Clerk office confirms that the property was used in oil refinery operations from approximately 1915 until November 1963. The former Lorraine refinery, including associated tank farm, operated under numerous companies from approximately 1915 to 1937 when the property was sold to Wilcox Oil and Gas Company. Wilcox Oil and Gas Company purchased refinery operations on the remaining acres east of the railroad tracks and operated as a crude oil refinery from the 1920s until the property was sold on 1 November 1963. The site encompasses approximately 140 to 150 acres.

The site is flanked by Route 66 to the west; a residential area and Turner Turnpike to the northwest and north; Sand Creek to the southwest; and residential, agricultural, and wooded areas to the east and south. The topography in the vicinity of the site slopes to the south. Two intermittent streams drain the eastern and western portions of the site. These streams flow south into Sand Creek.

The Site can be divided into five major former operational areas: the Wilcox refinery, the Lorraine refinery, the north tank farm, the east tank farm, and the loading dock area.

- The former Wilcox refinery area is fenced and covers approximately 26 acres. Most of the equipment and storage tanks that remained on-site in 1963 were auctioned and have been salvaged for scrap iron by private land owners, and what remains are in ruins. Four aboveground storage tanks (ASTs) (12,500 gallons each) remain standing, in addition to a number of buildings, discarded drums and pieces of scrap iron and piping. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature. A building in the northern part of the former refinery has been converted to a residence. An intermittent creek flows southward across the eastern portion of the refinery area through a small pond in the southeast corner of the refinery area and into Sand Creek.
- The former Lorraine refinery area covers approximately 8 acres and includes the southwestern portion of the Site, south of Refinery Road and west of the railroad. No refinery structures remain in the processing area. The First Assembly of God Church, a playground, and one residence are located here. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature.
- The East tank farm was a large crude oil storage area/tank farm covering approximately 80 acres and contains pits, ponds, and a number of circular berms that surrounded tank locations. All of the tanks have been cut down and removed; however, remnants of the tank locations remain and are visible. Many of the berms surrounding the pits, ponds, and former tanks have been cut or leveled. An intermittent creek is located in the eastern portion of the tank farm and flows south to Sand Creek. A pumping or gas compressor station exists in the north-central portion of the Site, and an active pipeline crosses from northwest to southeast across the middle of the Site. There are four residences located on top of or directly next to former tank locations. There are multiple areas of stressed vegetation, barren areas, and

visible black tarry waste of a hydrocarbon nature. Waste was also observed in several drainage channels that empty into Sand Creek.

- The North tank farm was a crude and fuel oil storage area consisting of approximately 20 acres. No refinery structures remain in the product storage area, and all tanks have been cut down and removed. Remnants of the tank locations are not visible, and historic locations are difficult to pinpoint. One residence is located in this area.
- The loading dock area is approximately 7 acres and was used for loading and unloading product by rail. Just a few refinery structures/supports remain and are generally located parallel to the existing rail lines. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature.

Operations

A modern skimming and cracking plant was constructed in 1929. The upgraded facility had an operating capacity of 4,000 barrels of crude oil per day. The main components of the system consisted of a skimming plant, cracking unit, and re-distillation battery with a vapor recovery system and continuous treating equipment. The crude oil was brought directly from the field, eliminating storage and handling facilities, but resulting in crude oil with high sediment and water.

Sanborn fire insurance maps can be used to understand historical property usage. The Wilcox Oil and Gas Company and Lorraine Refining Company Sanborn Insurance Maps indicate that the properties contained approximately 80 storage tanks of various sizes, a cooling pond, and approximately 10 buildings housing refinery operations. The maps also indicate that crude oil, fuel oil, gas oil, distillate, kerosene, naptha, and benzene (petroleum ether) were all stored on the property.

After the refinery operations ceased and most of the tanks and buildings were demolished and sold for scrap, the property was sold to private interests. Beginning in 1975 with the construction of the church, private residences were constructed on 6 parcels of land that were part of the former refinery operations. The most recent being constructed in 2003/2004. One former building associated with the refinery was repurposed as a residence. As a result, there is a total of seven residences on the Site, all of which are located on former tank or refinery operations locations. Three of the residences located on the eastern portion of the Site are known to use water from domestic/private wells. Sampling of the wells by DEQ show that there are no contaminants in the water above drinking water standards.

The refinery waste source areas of concern include a backfilled oily waste pond and pit, a breached settling pond, a former pond apparently backfilled with solid refinery waste, and a number of former tank storage areas. The contaminants of concern are metals and organic compounds (Polycyclic Aromatic Hydrocarbons [PAHs]). These potential contaminants of concern are found in soil, sediment, and waste material.